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AKERMAN SENTERFITT
P. O. BOX 3188
WEST PALM BEACH, FL 33402-3188

EXAMINER
DAILEY, THOMAS J

ART UNIT	PAPER NUMBER
2152	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.</td><td>Applicant(s)</td></tr>
<tr><td>10/666,310</td><td>CREAMER ET AL.</td></tr>
<tr><td></td><td>Examiner</td><td>Art Unit</td><td></td></tr>
<tr><td></td><td>THOMAS J. DAILEY</td><td>2152</td><td></td></tr>
</table>

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 December 2007</u>.

2a)☒ This action is **FINAL**.　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-25</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some *　c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-25 are pending.

Response to Arguments

2. The U.S.C. 101 rejections directed at claims 16-25 are withdrawn.
   However, the amendments, in regards to claims 16-24, necessitated
   specification objections which are presented and further elaborated on
   below.

3. The applicant amended claims 10-14 to recite a system comprising at
   least one computing resource, contending this clearly recites a hardware
   component of the grid environment and therefore overcomes the U.S.C.
   101 rejections directed at claims 10-14.

4. The examiner disagrees as computing resources can reasonably be
   interpreted comprising solely software, see applicant's specification (page
   7, [0024]: lines 1-2).

5. The U.S.C. 112 rejections directed at claims 8-9 and 23-24 are withdrawn
   in view of applicant's filed amendments and arguments.

6. The applicant neither argued against nor amended to alleviate the U.S.C.
   112 rejections directed at claims 10-14 (see previous action, page 4).

Therefore, those rejections have been maintained and are repeated below.

7. Applicant's arguments with respect to the prior art rejections of claims 1-25 have been fully considered but they are not persuasive.

8. The applicant argues, with respect to the independent claims that Boukobza (US Pat. 6,122,664) fails to teach or suggest a ghost agent that is associated with a host software object. Specifically, the applicant contends Boukobza discloses a singe autonomous agent that is associated with a single node, grid, or device and therefore Boukobza's autonomous agent is not associated with a single host software object.

9. The examiner disagrees. Boukobza states an autonomous agent that associated with object types or to a particular domain (column 5, lines 13-18) and column 1, lines 33-39 discloses such object types include software objects.

10. Further the applicant argues with respect to the independent claims, that Putzolu (US Pat. 6,681,243) fails to teach the step of associating and moving agents with another software object. Specifically, the applicant contends Putzolu does not suggest that agents can be associated with

another software, and therefore that they are incapable of following a
software object automatically.

11. The examiner disagrees. Putzolu was not relied upon in order to disclose
    associating agents with software objects (Boukobza was, as is illustrated
    the claim's rejections in this and the previous action). Boukobza teaches a
    method of monitoring nodes through associating agents with object types
    and Putzolu teaches that software objects are moveable. The association
    of Boukobza's agents to Putzolu software objects teaches the applicant's
    claimed invention. Therefore it would have been obvious to one of
    ordinary skill in the art at the time of the invention to combine the
    teachings of Boukobza and Putzolu in order to create a validation method
    that utilizes mobile agents which allow for a decentralization of the method
    and thereby achieving the predictable result of more effective
    management of the network (Putzolu, column 2, line 64-column 3, line 9).

Specification

12. The specification is objected to as failing to provide proper antecedent
    basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP §
    608.01(o). Claims 12, 14-20, and 23-31 use the term "computer-readable
    storage." This lacks antecedent basis in the specification. The examiner
    acknowledges that it was suggested to the applicant for the claims to be of
    this form, and apologizes, but notes after further consultation if the

applicant wishes to amend the claims to recite, machine-readable storage, as before this would be acceptable under 35 U.S.C. 101 and that would not have any antecedent basis issues as that term is specifically recited in the original disclosure.

Claim Rejections - 35 USC § 101

13. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claims 10-14 are rejected under 35 U.S.C.101 because the claimed invention is directed to non-statutory subject matter.

15. Claims 10-14 are directed to, "A system comprising…" and all the limitations are software elements (at least one computing resource, a ghost registry, and a ghost agent). Therefore the claims are directed to functional descriptive material that is not embodied on a computer system which is non-statutory.

Claim Rejections - 35 USC § 112

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 10-14 are rejected under 35 U.S.C. 112, second paragraph, as

    being indefinite for failing to particularly point out and distinctly claim the

    subject matter which applicant regards as the invention.

18. Claim 10 recites, "a least one ghost agent" (line 4) and "said ghost agents"

    (line 10). "Said ghost agents" lacks antecedent basis and it is unclear

    whether there are more than one ghost agent in the framework or at least

    one ghost agent.

19. Claims 11-14 are rejected due to their dependence on claim 10.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

    all obviousness rejections set forth in this Office action:

    (a) A patent may not be obtained though the invention is not identically disclosed or described
    as set forth in section 102 of this title, if the differences between the subject matter sought to
    be patented and the prior art are such that the subject matter as a whole would have been
    obvious at the time the invention was made to a person having ordinary skill in the art to which
    said subject matter pertains. Patentability shall not be negatived by the manner in which the
    invention was made.

21. Claims 1-12 and 14-25 rejected under 35 U.S.C. 103(a) as being

    unpatentable over Boukobza et al (US Pat. 6,122,664), hereafter

    "Boukobza," in view of Putzolu et al (US Pat. 6,681,243), hereafter

    "Putzolu."

22. As to claim 1, Boukobza discloses a method for restricting resources
consumed by a ghost agent comprising the steps of:

registering within a domain of a grid environment a ghost agent within
a portion of a grid of said grid environment associated with the domain
(column 4, lines 5-15 and column 4, lines 64-67, "agents are installed…in
the nodes to be monitored"), wherein said ghost agent is configured to
replicate and record at least one action of the associated host within said
grid (column 6, lines 30-34, "log files of the action of each node
monitored");

responsive to said registering, conveying a containment policy for said
domain to said ghost agent (column 3, lines 30-39, agents are installed
which monitor parameters and in response enact actions (e.g.
reconfiguration, correction, alerts));

configuring said ghost agent according to said received containment
policy (column 3, lines 29-39); and

utilizing said containment policy of said ghost agent to restrict
resources available to said ghost agent (column 3, lines 29-39, user or
default policy defines which parameters the agent has access to).

But, Boukobza does not explicitly disclose the ghost agent is
configured to move from said grid to another grid of said grid environment
in response to moving an associated host from said grid to said another
grid.

However, Putzolu discloses using mobile agents to diagnose, report, or correct network conditions (column 3, lines 59-61 and column 4, lines 17-23). That is to say, Boukobza discloses agents bound to software objects and Putzolu discloses software objects that are mobile. Therefore, Putzolu renders obvious to one of ordinary skill in the art the mobility of both the monitoring agent and the software objects in Boukobza, due to the fact that if Boukobza software objects move, so to will Boukobza's agents as they are associated with the objects and log their actions. Such of modification would have been obvious to one of ordinary skill in the art in order to create a validation method that utilizes mobile agents which allow for a decentralization of the method and allow for more effective management of the network (Putzolu, column 2, line 64 - column 3, line 8).

23. As to claim 10, Boukobza discloses a system for restricting resources consumed by a ghost agent with one or more domains of a grid environment, the system comprising:

at least one computing resource configured to manage a ghost registry disposed within a domain of a grid environment and at least one ghost agent disposed within a portion of a grid of said grid environment associated with said domain (column 4, lines 5-15 and column 4, lines 64-67, "agents are installed…in the nodes to be monitored"), wherein said

ghost registry comprises a containment policy for said domain (column 3, lines 40-49, management node conveys policies to agents),

　　wherein said ghost agent is configured to replicate and record at least one action of the associated host with said grid (column 6, lines 30-34, "log files of the action of each node monitored");, and

　　wherein said ghost agents adhere to said containment policy when disposed within said domain (column 4, lines 5-15 and column 3, lines 29-39, user or default policy defines which parameters the agent has access to).

　　But, Boukobza does not explicitly disclose the ghost agent is configured to move from said grid to another grid of said grid environment in response to moving an associated host from said grid to said another grid.

　　However, Putzolu discloses using mobile agents to diagnose, report, or correct network conditions (column 3, lines 59-61 and column 4, lines 17-23). That is to say, Boukobza discloses agents bound to software objects and Putzolu discloses software objects that are mobile. Therefore, Putzolu renders obvious to one of ordinary skill in the art the mobility of both the monitoring agent and the software objects in Boukobza, due to the fact that if Boukobza software objects move, so to will Boukobza's agents as they are associated with the objects and log their actions. Such of

modification would have been obvious to one of ordinary skill in the art in order to create a validation method that utilizes mobile agents which allow for a decentralization of the method and allow for more effective management of the network (Putzolu, column 2, line 64 - column 3, line 8).

24. As to claim 15, Boukobza discloses a ghost agent disposed within a grid environment, said ghost agent comprising:

an interface for associating said ghost agent with a host within said grid (column 4, lines 64-67 and column 5, lines 13-18, "An autonomous agent SAA is chiefly composed of a generic agent GA related to specific modules SM");

a ghost log configured to record data relating to said host (column 6, lines 30-34);

and a ghost controller configured to receive at least one containment policy for a domain associated with a portion of said grid in which the ghost agent is disposed (column 3, lines 30-39, agents are installed which monitor parameters and in response enact actions (e.g. reconfiguration, correction, alerts)), wherein said ghost controller is further configured to restrict computing resources consumed by said ghost agent based upon said received containment policy (column 3, lines 29-39, user or default policy defines which parameters the agent has access to).

But, Boukobza does not explicitly disclose the ghost agent is configured to move from said grid to another grid of said grid environment in response to moving an associated host from said grid to said another grid.

However, Putzolu discloses using mobile agents to diagnose, report, or correct network conditions (column 3, lines 59-61 and column 4, lines 17-23). That is to say, Boukobza discloses agents bound to software objects and Putzolu discloses software objects that are mobile. Therefore, Putzolu renders obvious to one of ordinary skill in the art the mobility of both the monitoring agent and the software objects in Boukobza, due to the fact that if Boukobza software objects move, so to will Boukobza's agents as they are associated with the objects and log their actions. Such of modification would have been obvious to one of ordinary skill in the art in order to create a validation method that utilizes mobile agents which allow for a decentralization of the method and allow for more effective management of the network (Putzolu, column 2, line 64 - column 3, line 8).

25. As to claims 16 and 25, they are rejected by the same rationale set forth in claim 1's rejection.

26. As to claims 2 and 17, Boukobza and Putzolu disclose the invention

substantially with regard to the parent claims 1 and 16, and further

disclose

determining a resource utilization value for said ghost agent

(Boukobza, column 5, lines 23-32, parameters are measured by the

agents, one such example is a CPU utilization value in column 6, lines 47-

67);

comparing said resource utilization value to a limit established by said

containment policy (Boukobza, column 6, lines 55-64); and

if said limit is exceeded, preventing said ghost agent from executing at

least one operation (Boukobza, column 6, lines 55-64, "give priority to

certain operations" (i.e. this prevents operations of low priority)).

27. As to claims 3 and 18, Boukobza and Putzolu disclose the invention

substantially with regard to the parent claims 2 and 17, and further

disclose:

deactivating said ghost agent (column 6, lines 59-61, the agent is

considered deactivated when it is not measuring the parameters);

starting an idle timer for said ghost agent (column 6, lines 59-61, as

there is a frequency of measurements, this will inherently have a timer, i.e.

the time between measurements); and

when said idle timer exceeds a time threshold, activating said ghost

agent (column 6, lines 59-61, the agent measures (activates) the

parameter when the timer associated with the frequency measurements

expires).

28. As to claims 4 and 19, Boukobza and Putzolu disclose the invention

substantially with regard to the parent claims 1 and 16, and further

disclose establishing a default containment policy for said ghost agent

(Boukobza, column 3, lines 26-30), wherein said configuring step

overrides said default containment policy (Boukobza, column 3, lines 26-

30).

29. As to claims 5 and 20, Boukobza and Putzolu disclose the invention

substantially with regard to the parent claims 1 and 16, and further

disclose:

     removing said ghost agent from said domain (Putzolu, column 4, lines

10-13, discloses movement of agents (i.e. the removal of agent and then a

subsequent install at a different location) and Boukobza already disclosed

agents associated with domains in claim 1 rejection); and

     responsive to said removing step, de-registering said ghost agent from

said domain (Putzolu, column 4, lines 10-13).

30. As to claims 6 and 21, Boukobza and Putzolu disclose the invention

substantially with regard to the parent claims 5 and 20, and further

disclose responsive to said de-registering step, configuring said

containment policy of said ghost agent based upon a default containment

policy (Boukobza, column 3, lines 26-30, teaches a default policy when

the agent is install and Putzolu, column 4, lines 10-13, teaches the

deregistering and reinstall of agents).

31. As to claims 7 and 22, Boukobza and Putzolu disclose the invention

substantially with regard to the parent claims 1 and 16, and further

disclose dynamically altering said containment policy of said ghost agent

(Boukobza, column 3, lines 30-31).

32. As to claims 8 and 23, Boukobza and Putzolu disclose the invention

substantially with regard to the parent claims 1 and 16, and further

disclose altering limits of said containment policy for said domain based

upon a number of the ghost agents registered within said domain

(Boukobza, column 3, lines 26-39).

33. As to claims 9 and 24, Boukobza and Putzolu disclose the invention

substantially with regard to the parent claims 8 and 23, and further

disclose broadcasting said containment policy updates to registered ghost

agents whenever said containment policy of said domain is altered

(Boukobza, column 5, lines 6-18).

34. As to claim 11, Boukobza and Putzolu disclose the invention substantially
    with regard to the parent claim 10, and further disclose at least one
    registry agent configured to exchange data between said ghost registry
    and said ghost agents (Boukobza, column 3, lines 26-39).

35. As to claim 12, Boukobza and Putzolu disclose the invention substantially
    with regard to the parent claim 10, and further disclose a policy engine
    configured to dynamically alter resource consumption limits of said
    containment policy based upon which ghost agents are registered with
    said domain (Boukobza, column 3, lines 26-39 and column 6, lines 46-67,
    gives an example where a parameter is a consumption limit).

36. As to claim 14, Boukobza and Putzolu disclose the invention substantially
    with regard to the parent claim 10, and further disclose a ghost
    containment policy, wherein said ghost agents adhere to said ghost
    containment policy when disposed within a domain that has no ghost
    registry (Boukobza, column 3, lines 26-29, if the user does not set a
    specific containment policy, a default policy will be used for the deployed
    agent).

37. Claims 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over
    Boukobza in view of Putzolu as applied to claim 11, in further view of what
    was well known in the art at the time of the invention.

38. As to claim 13, Boukobza and Putzolu disclose the invention substantially with regard to the parent claim 10, and further disclose said ghost agents adhere to said different containment policy when disposed within said different domain (column 4, lines 5-15).

But, neither explicitly discloses a different ghost registry in a different domain of said grid environment having a different containment policy,

Rather, Boukobza discloses a singular management node that distributes policies to agents (column 3, 26-39) which can be associated with particular domains (column 4, lines 5-15).

However, one of ordinary skill in the art at the time of the invention would appreciate that multiple management nodes can be deployed and it would be advantageous to distribute them to specific domains, Boukobza having already disclosed the usefulness of associated agents to particular domains. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Boukobza and Putzolu with what was well known in the art at the time of the invention in order to management a broader array of networks.

Conclusion

39. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

40. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

41. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Dailey whose telephone number is 571-270-1246. The examiner can normally be reached on Monday thru Friday; 9:00am - 5:00pm.

42. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

43. Information regarding the status of an application may be obtained from
the Patent Application Information Retrieval (PAIR) system. Status
information for published applications may be obtained from either Private
PAIR or Public PAIR. Status information for unpublished applications is
available through Private PAIR only. For more information about the PAIR
system, see http://pair-direct.uspto.gov. Should you have questions on
access to the Private PAIR system, contact the Electronic Business
Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from
a USPTO Customer Service Representative or access to the automated
information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-
1000.

/T. J. D./
Examiner, Art Unit 2152

/Bunjob Jaroenchonwanit/
Supervisory Patent Examiner, Art Unit 2152